US009438419B1

(12) **United States Patent**
**Aggarwal et al.**

(10) **Patent No.: US 9,438,419 B1**
(45) **Date of Patent: Sep. 6, 2016**

(54) **PROBABILISTIC PASSWORD CRACKING SYSTEM**

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( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 291 days.

(21) Appl. No.: **14/319,775**

(22) Filed: **Jun. 30, 2014**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 13/624,249, filed on Sep. 21, 2012, now abandoned, which is a continuation of application No. 13/547,779, filed on Jul. 12, 2012, now abandoned.

(60) Provisional application No. 61/506,785, filed on Jul. 12, 2011.

(51) **Int. Cl.**
***H04L 9/08*** (2006.01)
***G06N 5/04*** (2006.01)

(52) **U.S. Cl.**
CPC ..... ***H04L 9/0863*** (2013.01); ***G06N 5/048*** (2013.01); *H04L 2209/26* (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

System and methodology that utilizes keyboard patterns and alpha string patterns for password cracking. Keyboard patterns can be used as components of passwords, and the relevant shapes can extracted from these keyboard patterns and passwords. This keyboard information can be used to extend a probabilistic context-free grammar that can then be used to generate guesses containing keyboard patterns. Further, patterns in alpha strings, such as repeated words and multi-words, can be systematically learned using a training dictionary. This information can be used to extend the probabilistic context-free grammars which leads to generation of guesses based on the distribution of these patterns in the alpha strings, Keyboard patterns and alpha string patterns, individually and in combination, are shown herein to be effective for password cracking.

**20 Claims, 9 Drawing Sheets**